



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/539,929 03/31/00 YAD

S U-WP-5525 AD

009629  
MORGAN, LEWIS & BOCKIUS  
1800 M STREET NW  
WASHINGTON DC 20036-5869

IM22/1101

EXAMINER

ROCHE, L

ART UNIT

PAPER NUMBER

1771

DATE MAILED:

11/01/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/539,929

Applicant(s)

YAO ET AL.

Examiner

Leanna Roche

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 12-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Acknowledgement is made of Applicant's election to prosecute Group I, claims 1-11 without traverse. Claims 12-14 have been withdrawn from further consideration.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 9-11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Burleigh (USPN 4613544).

Burleigh discloses a microporous polymeric matrix having pores comprising continuous passages extending through its thickness and opening into the opposite surfaces thereof. The polymeric matrix may be comprised of the highly heat resistant resin, polytetrafluoroethylene (PTFE). The average pore size is from 1 to 5  $\mu\text{m}$  or less

and the void volume is from 10 to 85%. Burleigh discloses a microporous polymeric matrix thickness of about 10 to 50  $\mu\text{m}$ . It is well known in the art that the dielectric constant of PTFE is less than 2.5, and that PTFE can resist heat of above 200°C (See USPN 6090081, Column 15 lines 58-63). Burleigh discloses laminating other sheet materials to the polymeric matrix sheet.

With regard to claim 6, it is the examiner's position that the microporous polymeric matrix of Burleigh is identical to or only slightly different than the claimed porous insulating film prepared by the method of the claim(s), because both films are comprised of highly heat resistant resins having mean pore sizes and porosity within the same ranges, and having continuous pores reaching both surfaces. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). Burleigh either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are

Art Unit: 1771

commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Burleigh.

With regard to claim 10, Burleigh does not specifically disclose resistance to the passage of air of from 30 sec/100 cc to 2000 sec/100 cc and does not specifically disclose a heat shrinkage of no greater than  $\pm 1\%$ . However, it appears that microporous polymeric matrix of Burleigh is substantially identical to the presently claimed porous insulating film because Burleigh is comprised of a heat resistant resin having porosity between 30 and 80%, having a maximum pore size of less than 10  $\mu\text{m}$ , having a thickness of between 5 and 100  $\mu\text{m}$ , having a heat resistance temperature of greater than 200°C, and possessing continuous pores reaching both surfaces of the film. Thus, it is believed by the examiner that the microporous polymeric matrix of Burleigh inherently possesses a resistance to passage of air and heat shrinkage within Applicant's presently claimed ranges. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977).

5. Claims 1-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Michaels (USPN 4450198).

Michaels discloses a housing made from a microporous polymeric material such as polyimide. The pore size ranging from 10 angstroms to 10 microns. The porosity ranges from 5 to 50%, with pores interconnected through tortuous paths which extend from one surface of the housing to the other surface. The thickness of the microporous housing material of Michaels can be 10 microns or greater. Polyimide resin is known to have a heat resistance of greater than 200°C (See USPN 6115514, Column 15 lines 34-

Art Unit: 1771

35). The microporous material of Michaels can also be comprised of polyolefins, polyamides, polystyrenes, and polyvinyls, all of which are known in the art to have dielectric constants of 2.5 or less.

With regard to claim 6, it is the examiner's position that the microporous housing of Michaels is identical to or only slightly different than the claimed porous insulating film prepared by the method of the claim(s), because both films are comprised of highly heat resistant resins having mean pore sizes and porosity within the same ranges, and having continuous pores reaching both surfaces. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). Michaels either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Michaels.

With regard to claim 10, Michaels does not specifically disclose resistance to the passage of air of from 30 sec/100 cc to 2000 sec/100 cc and does not specifically

Art Unit: 1771

disclose a heat shrinkage of no greater than  $\pm 1\%$ . However, it appears that microporous housing of Michaels is substantially identical to the presently claimed porous insulating film because Michaels is comprised of a heat resistant resin having porosity between 30 and 80%, having a maximum pore size of less than 10  $\mu\text{m}$ , having a thickness of between 5 and 100  $\mu\text{m}$ , having a heat resistance temperature of greater than 200°C, and possessing continuous pores reaching both surfaces of the film. Thus, it is believed by the examiner that the microporous housing of Michaels inherently possesses a resistance to passage of air and heat shrinkage within Applicant's presently claimed ranges. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977).

6. Claims 1-4, 6-8, and 11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 09100363 (JP '363).

JP '363 is directed to an insulating plastic film which has excellent heat resistance. The pore size can range from about 5 to about 50 micrometers, and the porosity is greater than 10 volume percent of the porous plastic material. The thickness of the film can be from 150 to 200 micrometers. Preferably, the dielectric constant of the porous plastic film of JP '363 is 2.5 or less. The plastic film may be comprised of polyimide resin. Also, the porous insulating film may be sandwiched between denser skin film layers.

With regard to claim 2, JP '363 does not specifically disclose a mean pore size of 0.05 to 1  $\mu\text{m}$ . However, it would have been obvious to one having ordinary skill in the art at the time this invention was made to have minimized the mean pore size of the insulation film, since it has been held that discovering an optimum value of a result

Art Unit: 1771

effective variable involves only routine skill in the art. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present case, it would have been obvious to use a mean pore size of from 0.05 to 1  $\mu\text{m}$ , motivated by the desire to optimize the insulative properties of the film.

With regard to claim 6, it is the examiner's position that the porous plastic insulation film of JP '363 is identical to or only slightly different than the claimed porous insulating film prepared by the method of the claim(s), because both films are comprised of highly heat resistant resins such as polyimide, having mean pore sizes, porosity, dielectric constant and thickness within the same ranges. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). JP '363 either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with JP '363.



**Conclusion**

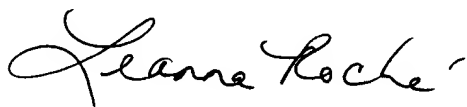
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sudo et al. (USPN 6090081) discloses the heat resistance temperature of polytetrafluoroethylene. Ando et al. (USPN 6115514) discloses the heat resistance temperature of polyimide.

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leanna Roche whose telephone number is 703-308-6549. The examiner can normally be reached on Monday through Friday from 8:30 am to 6:00 pm (with alternate Mondays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 703-308-1261. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Imr  
October 23, 2001



BLAINE COPENHEAVER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700